

Remarks

Reconsideration of this Application is respectfully requested. Upon entry of the foregoing amendment, claims 1-57 are pending in the application, with 1, 9, and 18 being the independent claims. Claims 1, 9, and 18 are sought to be amended. This change is believed to introduce no new matter, further clarifies claims 1, 9, and 18, and its entry is respectfully requested. Claims 53, 55, and 57 are sought to be cancelled without prejudice to, or disclaimer of, the subject matter therein. Applicants reserve the right to prosecute similar or broader claims, with respect to the amended and cancelled claims, in the future. Applicants respectfully request that the Examiner reconsider all outstanding rejections and that they be withdrawn.

Rejections under 35 U.S.C. § 103

On page two of the Office Action, claims 1-42 and 52-57 are rejected under 35 U.S.C. § 103(a), as being allegedly unpatentable over Azadet *et al.* (EP 1006697) in view of Winters *et al.* (Electrical Signal Processing Techniques in Long-Haul, Fiber-Optic Systems, AT&T Bell Laboratories), and further in view of Reznicek (U.S. Pat. 6,842,458).

Neither Azadet, Winters, nor Reznicek, alone or in combination, teach, suggest, or disclose all features of pending independent claims 1, 9, and 18, as amended. For example, claim 1 recites in part, "controlling *N analog-to-digital converter* ("ADC") paths with the *N* sampling signals to sample the electrical signal at the phases, to produce samples, [and] performing at least one *M-path parallel digital process* on the samples, *wherein M is greater than N.*" (See claim 1, *emphasis added*). Independent claims 9 and 18 recite similar features.

Azadet only teaches $M=N$. Specifically, figures 1, 3, and 5 of Azadet, as well as paragraphs [0008] - [0010] and [0018], teach only a number "N" of sampling signals with "N" ADCs and an "N" path parallel digital process. Therefore, Azadet teaches only an equal number of sampling signals, ADCs, and digital process paths.

Winters does not overcome the deficiencies of Azadet. Specifically, Winters does not address a number of ADC paths, and does not teach a relationship between the number of ADC paths (N) to the number of parallel digital process paths (M), and thus does not teach or suggest $M>N$, as recited in claims 1, 9, and 18.

Reznicek does not overcome the deficiencies of Azadet. Specifically, Reznicek does not teach a relationship between the number of ADC paths (N) to the number of parallel digital process paths (M) where $M>N$, as is recited in claims 1, 9, and 18. In fact, in FIG. 2 of Reznicek, the number of digital paths (DSP) is less than the number of ADCs (e.g. codecs), so that Reznicek actually teaches $M<N$, which teaches away from Applicant's claimed invention. Accordingly, the combination of Azadet, Winters, and Reznicek does not teach each and every feature of independent claims 1, 9, and 18 and therefore does not meet the requirements for *prima facie* obviousness. (See, MPEP 2143) Accordingly, Applicants respectfully request this rejection be removed and that the independent claims 1, 9, and 18 and their respective dependent claims be passed to allowance.

Additionally, on page fifteen of the Office Action, claims 43-51 stand rejected under 35 U.S.C. § 103(a), as being allegedly unpatentable over Azadet in view of Winters and Reznicek, and further in view of Bingham (Multicarrier Modulation for Data Transmission: An Idea Whose Time Has Come, IEEE Communication Magazine, May 1990).

Claims 43-51 depend from independent claims 1, 9, and 18. As discussed above, neither Azadet, Winters, nor Reznic teach or suggest $M > N$, as recited in independent claims 1, 9, and 18. Bingham does not cure the deficiencies of Azadet, Winters, and Reznic. Claims 43-51 are thus patentable for at least the reasons provided above with respect to claims 1, 9, and 18, and further in view of the additional features recited therein. Reconsideration and withdrawal of the rejection is requested.

If the rejection is maintained using the cited references mentioned above, Applicants request that each of the distinctions recited above be addressed with specificity. Accordingly, Applicants respectfully request all rejections be removed and that claims 1-52, 54, and 56 be passed to allowance.

Conclusion

All of the stated grounds of objection and rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider all presently outstanding objections and rejections and that they be withdrawn. Applicants believe that a full and complete reply has been made to the outstanding Office Action and, as such, the present application is in condition for allowance. If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

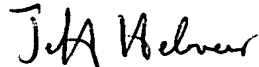
Reply to Office Action of January 5, 2007

Agazzi *et al.*
Appl. No. 09/909,896

Prompt and favorable consideration of this Amendment and Reply is respectfully requested.

Respectfully submitted,

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